

ABSTRACT OF THE DISCLOSURE

Disclosed herein is a highly weather resistant colored steel plate which comprises a steel plate as a substrate, a zinc- or zinc alloy-plated layer formed on the steel plate, a layer formed on the zinc- or zinc alloy-plated layer and pretreated with chromate or non-chromate, and a highly weather resistant film formed on the chromate or non-chromate layer, wherein the highly weather resistant film includes a polyester-based primer coated onto the chromate or non-chromate layer and a polyester top coat coated onto the polyester-based primer, the top coat being produced from a mixture of a main resin obtained by reacting an oil-free polyester-modified resin and a polyisocyanate compound, a melamine resin as a crosslinking agent, and other additives.

The physical properties of the highly weather resistant colored steel plate are excellent in terms of functional characteristics such as weather resistance and UV resistance, compared to those of conventional modified (RMP), highly weather resistant (HDP) and silicone-modified (SMP) colored steel plates. In addition, the highly weather resistant colored steel plate is inexpensive relative to conventional fluorine resin steel plates, shows much less influence by colors, and has physical properties equivalent to the fluorine resin steel plates.